

Informing Consumer Decisions in Health Care: Implications from Decision-Making Research

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CURRENT STRATEGIES TO REFORM HEALTH CARE rely on encouraging consumers to make informed choices in order to help discipline the market. When consumers are informed about the relative cost and quality of health plans, it is assumed that, faced with the collective effect of their educated choices, plans and providers will compete on both cost and quality. According to this view, informed consumers will reward those providing the highest quality of care at the lowest price and will make choices that are more satisfying and more appropriate to their individual needs.

When there is no public disclosure of quality information, plans may compete on cost alone. Competition based solely on cost may give plans and providers a strong incentive to skimp on the care they provide to their enrolled populations. Therefore, it is critical that quality information be used in choosing health plans.

The dissemination of quality information may lead not only to the selection of high-performing health plans; it may also raise awareness of quality issues and broaden consumer concepts of quality. Performance measures reveal what health plans should be doing for members and what constitutes good care. Thus, information about quality could even-

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tually change consumer expectations and influence how consumers use health care.

Considerable effort is being applied to the development of performance measures and to creating reliable and valid methods for the collection, reduction, and dissemination of data. Dissemination of health plan report cards is expanding rapidly among states, regional purchasing cooperatives and coalitions, large employers, consumer groups, and health plans themselves. Despite the widespread and growing acceptance of this approach, little is known about whether it will actually work. Will consumers use the information in these report cards effectively when they choose their plans and providers? Most of the evidence about how consumers view and use performance information is based on focus groups and convenience samples. Thus, the strategies adopted to date are not well informed by research.

However, a substantial body of theoretical and empirical work exists on how individuals process and use information when making decisions. In this article, we will review studies of human judgment and decision making and discuss their implications for implementing the informed consumer strategy. We have three main objectives: using these findings to evaluate current approaches to increasing informed consumer decisions; drawing upon decision-making research findings to propose alternative and additional strategies; and delineating the research that will be required to guide the implementation of the next generation of strategies.

Findings from Decision-Making Research

How Much Information Is Too Much?

Report cards tend to contain a great deal of information, based on the assumption that giving consumers more information will enable them to make better decisions. Most report cards use several performance measures and plan characteristics to compare multiple plans. For example, in 1995 the Minnesota Health Data Institute distributed a 16-page, statewide report card that featured comparison tables and color-coded graphs of consumer satisfaction within categories of health plans and compared 38 plans based on 20 performance measures (Minnesota Health Data Institute 1996). The Pacific Business Group on Health issues *Health Scope*, which compares 24 plans based on 20 different perfor-

mance measures in the state of California (Pacific Business Group on Health 1996). Some report cards also compare various plan characteristics, like number of physicians, hours, and benefits, as well as plan performance. For example, the Gateway Purchasing Association in St. Louis compares three plans on 14 performance measures and nine different plan characteristics in its a report card (Gateway Purchasing Association 1996).

A critical element in decision making is the ability to interpret and integrate information items (Slovic 1982). Report cards contain a considerable volume of information comparing plan performance and characteristics. At the same time, the number of performance indicators is expanding because different organizations are setting standards for plan performance measurement. The performance measures of the National Committee for Quality Assurance (NCQA), which are known as the Health Plan Employer Data and Information Set (HEDIS), are collected with a standardized method, and they include several different types, ranging from patient satisfaction, to preventive care, management of chronic conditions, and, to a lesser extent, health outcomes. The HEDIS measures appear in most of the existing health care report cards. The Foundation for Accountability (FACct) also has a mission to develop health plan/provider performance measures. Many of the measures it develops will be condition specific and will include health outcomes. As the number of performance indicators grows, so does concern about whether consumers will be able to process this amount of information effectively. Moreover, consumers have other types of information to factor into their choices: plan type, option levels, convenience, provider panel considerations, benefits designs, and premium cost. Will consumers be able to incorporate multiple items of information on several dimensions into sound choices? Will the different types of data and the sheer amount of material only bewilder and confuse rather than inform?

Evidence from decision-making research related to these questions is sobering. Conclusions from a large body of empirical work suggest that the integration of different types of information and values into a decision is a very difficult cognitive process. Evidence shows that people can process and use only a limited number of variables. However, when asked, consumers will often say they want more information rather than less. A study by Slovic (1982) sheds light on this apparent dilemma. He examined the information processing and decision making of experts, in this case handicappers for horse races. The handicappers were asked to

make predictions about the winners of horse races based on information from 5, 10, 20, and, later, 40 variables. Study participants were asked to make their own selection of variables from a list of 88 possibilities. Slovic found that, as more information was used, confidence in the decisions went up. However, predictive ability was as good with 5 variables as with 10, 20, or 40. So, whereas confidence in decisions increased linearly with access to more information, the accuracy of choices did not improve. Further, the reliability of the choices decreased as more information was made available. That is, when individuals had more information, their ability to use it “consistently” declined. It is important to note that this study was performed on subjects who were experts, and thus presumably had a good understanding of the importance of each of the variables under consideration. This, of course, is not the case with most consumers. These, and related results (Oskamp 1965), suggest that the approach of giving consumers the maximum amount of information is not the most effective path to informed consumer choice.

Consumer Use of Performance Information. Rigorous assessments of how consumers process and use performance information have not been done. Evidence from focus groups and surveys, however, seem to confirm the findings from information processing and decision-making research. Focus group participants who are reacting to report cards commonly respond that they find the information overwhelming and confusing and that they do not know how to bring all the pieces of information together into a decision. Many say they prefer to have someone tell them which plan to choose (Jewett and Hibbard 1996; Hanes and Greenlick 1996; Minnesota Health Data Institute 1996).

An evaluation of the Minnesota report card revealed that less than half of those seeing the report thought it was helpful for deciding on a plan. Consumers found the report cards cumbersome, complex, and detailed (Minnesota Health Data Institute 1996). These findings suggest that the amount of information contained in report cards may be too much for consumers to process and use effectively.

Handling Complex and Conflicting Information

One rationale for providing multiple performance measures is that consumers can choose a plan based on factors that are personally relevant. Yet the provision of more performance measures increases the likelihood

that a single plan will perform well on one indicator and poorly on another. If health plans would neatly sort into good (those that perform well on all dimensions) and bad (those that perform poorly on all dimensions), choices would be simpler and more straightforward. However, when information is conflicting, the processing burden increases. For example, if a moderate-cost health plan performs very well on preventive care and below average on measures of patient satisfaction, compared with a high-cost plan that performs about average on both those dimensions, how does the consumer weigh such information in making a choice? Making “trade-offs” in order to integrate conflicting dimensions into an overall choice is a very difficult task. When faced with these trade-offs, individuals tend to make compromises and take heuristic shortcuts that may undermine their own interests.

Research on decision making shows that, when asked to make global decisions about complex matters, individuals adopt simplified cognitive strategies, such as comparing alternatives based on a single important dimension and leaving out other important dimensions (Tversky, Satath, and Slovic 1988). Another strategy for coping with conflict and complexity in choice is to search for, or construct, a problem frame in which one alternative seems to dominate the other (Montgomery and Svenson 1989). The critical point is that these heuristic strategies to cope with complexity often ignore potentially relevant problem information and thus lead to “decision errors” (Payne, Bettman, and Johnson 1993).

When multiple comparisons are made on the basis of different types of variables, the “evaluability” of these variables becomes a concern. For example, integrating both cost and quality information is a critical step in choosing a health plan. Optimally, consumers will use both quality and cost information, and they will seek value for their health care dollars. There is little question that cost is salient to consumers. Quality information, however, is unfamiliar and often incomprehensible to them (Jewett and Hibbard 1996). When faced with complex information and two competing objectives, individuals will give more weight to variables that are precise and concrete and less weight to “fuzzier” factors that are inherently harder to evaluate (Hsee 1996; Mellers, Richards, and Birnbaum 1992). This suggests that when consumers are facing the dilemma of having to balance costs against quality, costs, which are precise, direct, and have understandable consequences, may outweigh quality factors, which tend to be vague and less comprehensible.

Use of Performance Information for Making Trade-Offs. The frustration experienced by consumers who are trying to integrate all this information into a decision derives, in part, from the difficulty of making trade-offs and of incorporating different types of variables into a decision (Jewett and Hibbard 1996). As yet, there are no studies examining how consumers weigh health plan costs against quality factors. However, some report cards acknowledge that cost will be a dominant factor for consumers. They suggest that consumers make the cost decision first and then compare the quality of offerings within the cost strata. Although this does reduce the burden of information processing, it also compromises the policy approach, which assumes that both cost and quality will be properly weighed.

Tailoring Health Care Choices to Individual Needs

The production of condition-specific performance indicators is intended to help consumers choose the health plan and the provider that are appropriate to their needs. That is, consumers who have, or anticipate having, specific health problems can use condition- or care-specific performance indicators to choose a plan that performs well in those areas. However, this assumes that consumers are able to predict their individual and family health care needs, when, in fact, this involves two types of cognitive tasks: forecasting events, such as the probability of illness, and predicting one's needs and values should the event occur. An example of the second task would be anticipating whether comfort care or the availability of experimental treatments would be important in the event of cancer.

Findings from decision-making research indicate that people often find it difficult to anticipate their own needs. A person in good health cannot always foresee what his or her needs or values might be during an illness. For example, the works of March (1978) and Christensen-Szalanski (1984) suggest that people have difficulty forecasting how they will react to events. That is, one's assessment of needs changes according to the circumstances, and it is difficult to anticipate preferences in those changed circumstances. An example might be women's preferences and values regarding anesthesia during childbirth. In one study, women's preferences were assessed one month before labor, dur-

ing early labor, during active labor, and then again one month postpartum. Their preference one month before labor was the best predictor of their postpartum choice: avoidance of anesthesia. Women's preferences during active labor and the transition phase of labor were unrelated to their postpartum preferences; during labor they favored the use of anesthesia (Christensen-Szalanski 1984). The point is that individuals often do not know how they will react to an event, or understand what their needs will be during that event, until they experience it. Healthy consumers can speculate about what they would value in cancer care, but the reality may well be different when they actually need such care.

In addition, anticipating health care needs is based, in part, on assessing probabilities of events. Findings show that individuals consistently underestimate personal risk for hazards in certain situations: when the hazard is one with which individuals have had little personal experience; when hazards are perceived as low in probability; or when hazards are judged to be controllable by personal action. These types of hazards may include the potential for catastrophic illness, serious injury, or even less serious morbidities. This optimism bias in comparative risk judgements is robust and widespread (Weinstein 1989). Thus, there may be a tendency for healthy individuals to assume that their risk of injury or serious illness is low. This, in turn, could affect how quality information would be valued and weighed in a health plan choice.

The Optimism Bias. When focus group members are asked about preference among performance indicators, they clearly opt for information about people in the plan who are like themselves (National Committee for Quality Assurance 1995; Jewett and Hibbard 1996). Healthy consumers are less concerned about performance information on specific conditions. Many consumers are clear that information on the treatment of patients with specific conditions is not relevant to them (Hibbard, Sofaer, and Jewett 1996; Jewett and Hibbard 1996). That is to say, consumers appear to be firmly anchored in the present when using performance information.

The Effect of Information on Decision Making

The policy of providing information to increase informed choice is based on assumptions derived from utility theory. This theory posits that if

individuals are adequately informed, they will make choices that maximize their interests. The theory assumes that decision makers are well informed about the possible courses of action and their consequences; highly sensitive to differences among alternatives; and rational, in the sense of being able to make decisions that maximize some subjective measure of value or welfare. Tests of this theory have been the focus of hundreds of studies (Slovic, Lichtenstein, and Fischhoff 1988). The results suggest that utility theory is of limited value in describing human decision making and that the process of deciding is much more complex than the theory reflects.

A basic assumption of rational theories of choice is that preferences or beliefs about one's self-interest are stable. However, a large body of research shows that preferences are remarkably labile and sensitive to the way a choice is described or framed, even in the absence of intervening time or events. This has led to a new view of decision making, which postulates that beliefs and preferences are often constructed in the process of elicitation or deciding (Slovic 1995). That is, individuals may not have existing preferences or beliefs about self-interest, but, rather, construct them in the process of deciding. This is quite different from the assumption that individuals possess a relatively fixed set of ordered preferences. This new conception applies particularly to choices among options that are important, complex, and unfamiliar, like those consumers face in the current health care environment. In these decisions, preferences do not preexist but are constructed on the spot by the decision maker through a process that is heavily influenced by framing and contextual factors.

This view suggests that the way information is provided or framed may strongly affect the way it is used and may alter the resulting choices. That is, the *way* in which plan performance on prevention or consumer satisfaction is presented may be as influential in decisions as the actual level of performance. Similarly, the way in which cost and convenience information is presented may raise (or lower) the importance of those variables in consumer decisions. Because consumers find themselves in an unfamiliar, rapidly changing, and complex health care environment, it is very likely that preferences, values, and beliefs about self-interest are uncertain, highly changeable, and manipulable. In addition to being unstable, these constructed preferences or beliefs about self-interest may not be valid or appropriate. That is, depending on how

the information is presented, beliefs or preferences may be constructed that are counter to the interests of the individual.

Consumer Information Preferences. A dominant approach to determining what kind of information should be included in health care report cards is to question consumers about their preferences. Researchers using focus groups to elicit consumer preferences for performance information have noted that consumer opinion is often unstable and that the way performance information is presented or explained can affect consumer preferences (Sofaer 1996; Hibbard and Jewett 1996). Thus, there is some limited evidence that consumers are constructing preferences for performance information rather than reporting on preexisting ones.

Some of the problems of information processing described above are, to some degree, manageable. However, the issue of constructed preferences is much more troubling, as it negates the fundamental assumption upon which the consumer choice strategy is built: that consumers have well-defined preferences and that the provision of information will be sufficient for them to maximize their interests. If preferences and beliefs about self-interest are constructed during elicitation, and if the framing of issues influences preferences in some fundamental way, this suggests that consumers are very vulnerable to manipulation (intended or unintended). This may be particularly true of consumers who are confused by the complexities of the choices they face and who are the targets of vigorous marketing strategies.

Implications for Consumer Information Strategies and Research

Many of the assumptions underlying current information dissemination strategies are not supported by the findings we have reviewed here. Two examples would be the assumptions that more information is better and that the simple provision of information is sufficient to assist consumers. Further, the findings from studies of human judgment and decision making suggest that if the ultimate aim is to increase informed consumer decision making, we must refocus our strategies and near-term objectives. Thus, one objective should be to reduce the information-processing burden for consumers. Another objective should be to guard against manipulation of consumers and to support and rationalize the

choice process (including assisting consumers in making trade-offs and in weighing factors). Enhancing the role of intermediary decision makers may help achieve these objectives.

Reducing the Information-Processing Burden

Findings from decision-making research suggest that how information is packaged is critical to whether it can be effectively processed and used in choices. Attention to the amount of information that is process-able is also important.

Attention to the Packaging of Information. An example of how packaging information affects consumer choice is unit pricing in grocery stores. Russo and colleagues (1975) contended that mere availability of information is insufficient, and they made a distinction between available information and process-able information. Before consumers can effectively use unit price information, a convenient, process-able display of that information is necessary. In an experiment using different display methods, posting a list that allowed convenient comparisons of similar products' unit pricing significantly increased the market shares of items with lower unit prices.

Most health care report cards use the kind of display approaches tested in the unit pricing study: comparing several plans across a single dimension of performance. Although this may help consumers use individual performance measures, it may not enable them to assemble the information pieces into a coherent decision. Many questions on how the presentation, explanation, and display of performance data may affect consumers' decisions have not been explored. The packaging of information can affect the evaluability of the data, the comprehensibility of information, and the perceived salience of the information. Although there have been some empirical assessments of consumers' preferred formats, no controlled, rigorous assessment has been conducted of the most effective ways of presenting performance information. Research is needed on how best to package information to maximize understanding and use.

Attention to the Amount of Information. The findings from decision-making research strongly support providing fewer variables for consideration. One approach for reducing their number is for employers to

standardize the plan designs offered to employees. Some employers have adopted this approach as an explicit strategy designed to facilitate consumer choice. Employees are able to focus their choice on value (cost and quality) when plan type and benefit package are held constant (Hoy, Wicks, and Froland 1996).

Another approach is simply providing fewer performance measures for consideration. One way to reduce their number is to synthesize measures into scores on three to four areas of performance. For example, there could be one global measure on prevention, one on management of chronic disease, and so on. Ideally, consumers who are interested in the data underlying the synthesized measures could have access to that information. NCQA is developing a strategy (and validating the process) for creating these synthesized measures from HEDIS data (Schneider 1996). The Consumer Assessment of Health Plans Study (CAHPS) is also using this strategy in the reporting formats for its consumer assessment survey results. That is, the CAHPS reporting formats will compare health plans on several global "synthesized" measures and allow consumers who are interested to explore, or "drill down," to information on the underlying constituent measures.

Finally, providing global ratings by experts would be another way to reduce the information-processing burden. That is, instead of providing the raw data, have experts give a global quality rating for each of the plans. The consumer task would shift from interpreting data to assessing the credibility of the information sources and the experts. Research is needed on how consumers view both expert ratings and synthesized measures. Are they viewed as salient, understandable, and trustworthy? Further, it will be important to examine whether using expert ratings and/or synthesized measures actually makes health plan choices more manageable.

More broadly, research is also needed on the amount of the information that can be reasonably processed and used in decision making. Determining the degree of complexity and the number of trade-offs that can be integrated into decision making is basic to understanding how consumers make decisions. Examinations of how trade-offs are made and what factors dominate decisions for different consumer groups are also needed. Are there common "overriding factors" in health plan decisions (e.g., access to a particular doctor, cost, or geographic location)? Such research will help to inform the creation of decision-support systems to aid consumers.

Protecting and Supporting Consumer Choice

To reduce the potential of consumer manipulation, two strategies are needed: a standardized format for presenting information; and a decision support method that leads consumers step by step through a rational process. Standardizing the presentation does not in itself preclude all manipulation of material. However, through empirical assessments, we may be able to find formats that minimize the biasing effects of presentation on consumer preferences.

Decision Support. People need a method that first helps to articulate their values for the many aspects to include and then helps them to combine these parts. This method should provide access to relevant information, ask for responses to sequential parts of the problem (to avoid cognitive overload), and help individuals to combine the parts into a single whole. Because of the lack of a set of preexisting fixed preferences, and in order to increase the validity of the response, the elicitation method should be based on justifiable principles of decision making and should produce a clear record of the process (Gregory, Lichtenstein, and Slovic 1993). One such method is the multi-attribute utility theory approach to value construction, which can be used to frame the issues, structure the problem, elicit objectives, make trade-offs across objectives, and compare alternatives (von Winterfeldt and Edwards 1986).

In assessing the kind of decision-support strategies that are appropriate to the problem, it is important to keep in mind that the health plan choice decision is unique in at least three respects:

1. The decision often involves choosing for others (e.g., family members).
2. The decision, while obviously consequential for the individual, may also affect the performance of the health care delivery system. This characteristic, taken with the first, raises the ante for ensuring that consumers are making sound decisions.
3. At the same time, there are no clear "right decisions."

Unlike the horse-race example, we are usually not able to say whether or not the consumer got it right. Thus, in evaluating approaches to assisting consumers, the emphasis is necessarily on the degree to which the process can be rationalized and based on the known principles of decision making.

A key element in decision support is *framing the issues* and providing a context for the decision maker. There is growing evidence that consumers do not understand the nature of their choices or the implications of those choices (Hibbard and Jewett 1996). The health care environment has changed so dramatically and so rapidly that consumers are often unaware that they no longer understand how their health care delivery systems operate. This is a problem not only for making sound health plan choices, but also for effectively navigating within the systems. In a recent experiment, Hibbard, Sofaer, and Jewett (1996) found that consumers who were given information about the health care context (e.g., how a managed care plan works and what it should be doing for members) rated quality indicators as more meaningful than those who did not receive the contextual information. Thus, it appears that framing the issues will help consumers to use the performance information more effectively. Framing could also raise the currently low salience of health plan choice (Mechanic 1989; Hibbard and Jewett 1997).

Dividing the cognitive tasks into small steps is part of decision support. For example, consumers might be guided first through a process of decision making about benefit packages and option levels; their choices would thus be narrowed before they tackled the information on quality. Thus, consumers could choose high-performing plans within a narrower band of choices. Similarly, the process might be structured to elicit the important quality dimensions before examining comparative quality. This will allow consumers to construct a preference set based on a full range of issues that should be considered in any choice. Further, the preference set will not be confounded by the confusion that occurs when comparative data on multiple plans and multiple quality dimensions are presented. Consumers can emphasize the dimensions they value most: an example might be a plan that is geographically close, that performs well on managing chronic disease, and that has high patient satisfaction ratings. Structuring the problem also includes careful consideration to information packaging and a reduction of the number of variables to a process-able size (e.g., synthesizing performance indicators). A multi-attribute approach elicits not only priority dimensions but also a quantitative valuing of those dimensions.

While some trade-offs can be avoided by structuring the decision process, there will still likely be a need to make trade-offs across objectives. Acceptable trade-offs may be defined in a variety of ways. The

multi-attribute approach uses a quantitative strategy of scaling and ranking to express the relative importance of each objective to the value of the alternative objectives under consideration. The important point is to have consumers make a step-by-step assessment of key trade-offs that is explicit and systematic.

Many of the approaches to decision support rely on computer-aided systems. Although these systems are clearly advantageous in framing, structuring, and quantifying options, and in packaging information, computer-assisted approaches will not work with all sectors of the population. Alternative methods, perhaps person mediated, will also be needed.

The Role of the Intermediary

Because of the difficulty of the cognitive tasks required to use complex performance information, many consumers will be unwilling or unable to incorporate this information into their choices. Even when the information is carefully packaged and the decision process incrementally structured, consumers may still feel overwhelmed and confused. The fact that only 47 percent of the population either is capable of performing only simple literacy tasks or is illiterate constitutes a significant barrier (National Center for Educational Statistics 1993). Even consumers with adequate skills will not always be motivated to expend time and effort on this burdensome task. The proportion of consumers who will be unable or unwilling to use performance information in making plan choices is not known. Some people simply will need help. Many of these consumers will explicitly or implicitly rely on the expertise and choices made by intermediaries (e.g., benefits managers, purchasing alliances, and advocates). If large numbers of consumers do not use performance information, *decisions at the intermediary level may become the most consequential ones, both in terms of their influence on the market and in how they shape the choices made by individuals.*

Thus a dual strategy is needed: one for consumer end-users, who will directly use performance information for plan choices; and one for intermediaries, who narrow the choices that consumers make and assist them in decision making. This dual strategy, then, could accommodate the full range of consumer needs and interests.

Upgraded and Supported Roles for Intermediaries. Consumers rely on an advocate or an expert for assistance in a number of product and service areas. For example, investment counselors guide consumers in an arena in which they lack information and expertise. Similarly, many consumers rely on car-buying services when purchasing a new car. Wise consumers realize that the buying service is likely to negotiate a better deal on a new car than they could obtain on their own. The buying service is privy to information not available to the consumer (e.g., incentives to the dealer, acceptable margins of profit).

Intermediaries, like employee benefit managers, purchasing alliances, public purchasers, unions, and consumer and patient advocates, already play various roles in consumer choice of health plans. These intermediaries include both advocates and purchasers. Many intermediaries disseminate performance information to their own constituent consumers, whereas others reach a wider consumer audience. In some cases, they supply educational support materials for use with performance information. Most purchasers also shape consumer choice by limiting the choice options to preselected plans that fit performance and cost criteria. Some purchasers go further, offering financial incentives to consumers to choose the high-performing plans. Some provide decision support to consumers either through computer programs or through their benefits office personnel. Advocate groups like HICAPs (Health Insurance Counseling and Advocacy Programs) assist consumers, often on a one-on-one basis, in choosing a health plan and in handling problems they encounter once they have enrolled in the plan.

Intermediaries face the same set of cognitive challenges that consumers face in trying to integrate large amounts of information into sound choices. Slovic (1995) points out that even experts experience difficulties in processing and using large amounts of data to make choices. However, the educational and informational material designed for intermediaries is generally more intensive and complex than that created for consumers. Becoming expert in this arena is part of their job, and, as professionals, they can devote more time and attention to the task. *Involving expert (or trained) intermediaries in the decision process would also increase the pressure on health plans to be accountable for their performance.* Intermediaries can also help overcome some of the optimism bias inherent in individual decision making. Intermediaries who are aware that consumers tend to be anchored in the present when making choices can factor this into pur-

chasing decisions (e.g., choosing plans that have a good record of caring for patients with chronic diseases).

Educational strategies for intermediaries would upgrade their skills and knowledge in using and interpreting performance information. Intermediaries must understand the diverse needs of their constituents, the inherent optimism bias in individual decisions, and the limits and meanings of the performance information, and also be able to make trade-offs for constituents.

Like consumers, intermediaries could also benefit from decision-support methods to guide them, step by step, through a process based on explicit criteria (which were arrived at through a consensus and/or an empirically based approach). The decision support method could also be designed to handle trade-offs and to preset the relative weights assigned to different types of variables. Another application of such a method would be to make explicit what is valued and to highlight which variables will dominate decisions. Using a standard scoring system built on constituent values would also give greater license to intermediaries to make (or narrow) choices for constituents. A decision model, based on constituent values, would essentially constitute a "theory of quality" that is tailored to a population.

Some intermediaries may personally assist consumers in making their choices. Using their access to the comparative plan performance information, they can elicit priorities and preferences from consumers, ascertain that they have considered all relevant factors, and offer expert assistance in the decision process. In other instances, they would interpret performance information for consumers and/or provide expert ratings of plans.

The intermediaries' role in health care decisions may well raise issues of credibility, as the objectives and self-interests of these agents are not necessarily aligned with consumer priorities. For intermediaries from other sectors, like investment counselors, self-interest is less of a concern, as their success is usually tied to their client's financial success. However, congruence in objectives between the consumer and the intermediary is not necessarily true of many intermediaries involved in health plan choice. Thus, it is not surprising that the trustworthiness of the intermediary as a source of information has emerged as an issue in a recent consumer survey (Kaiser Family Foundation and the Agency for Health Care Policy and Research 1996). However, if intermediaries use

decision-support methods whose criteria are explicitly derived from constituent values, then trust and credibility would likely be enhanced (Earle and Cvetkovich 1995).

Pursuit of two strategies, one of which is aimed at intermediaries and the other, at end-user consumers, requires two major paths for research and development: testing methods for information packaging and decision support that can be used (a) directly by consumers and (b) by intermediaries, to assist consumers in decision making. Both involve decision support and rationalize the decision process. Assessments of both consumers and intermediaries would be required in order to determine their ability to process information and their need for support in making decisions.

Research on Intermediary Skills, Knowledge, and Roles. Intermediaries represent a wide range of skills and knowledge. An assessment of the knowledge and skills of various categories of intermediaries would inform the interventions aimed at these professionals. A first step would be to determine how many of them understand and use performance information. An examination of how different intermediaries define their role in assisting consumers and to whom they feel accountable is needed as well. It is also important to ascertain which population groups are currently served by the different intermediaries and which groups have no access to any intermediaries at all. The needs assessment would form the basis for developing interventions to upgrade intermediary skills, knowledge, and resource levels. An examination of the needs of each type of intermediary would allow interventions to be tailored for each category.

The evaluation phase of the CAHPS project will include a process assessment of intermediaries and the problems and barriers they encounter in informing consumers (e.g., employees and Medicaid enrollees) about plan choice and plan performance. This assessment will constitute a start in understanding the skill and knowledge needs among different categories of these intermediaries.

Summary and Conclusions

It is clear that more scientifically supported tactics are required to aid consumers with their health plan choices. Little congruence exists be-

tween current report card strategies and decision-making research. To truly support informed consumer decisions, report cards must build on empirical evidence about how consumers use and process information. Although there is evidence that the findings from decision-making research apply to the use of report cards, further assessment within the health care information arena is still needed. Thus, research must be done both on how to present and package information and on how to support the decision process. For some consumers the best way to support decisions may be through intermediaries. An exploration of current intermediary roles, skills, and knowledge would lay the ground work for creating this kind of consumer support.

In summary, the limitations of human information processing coupled with the complexity of the information appearing in health care report cards suggests that many consumers will not use performance information in making choices. Thus, strategies are needed that will support those who prefer greater reliance on intermediaries, as well as those wishing to use the information directly. Many of our current strategies are based on assumptions that are not supported by existing research. While there is much to learn about assisting consumers in making informed choices, there is also a great deal known about these issues from studies of human judgment and decision making. We need to base our implementation approaches and our research agenda upon this existing foundation of knowledge.

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